IN THE CLAIMS:

This listing of claims replaces all prior versions and listings of claims in the application:

1. (currently amended) An implantable stimulator, comprising:

one or more acoustic transducers configured to transform acoustic waves into electrical current; and

a stimulating electrode configured to output stimulation energy to adjacent tissue, the stimulation energy based on the electrical current;

wherein the stimulation energy is generated in response to the electrical current.

2. (original) The implantable stimulator of claim 1, wherein the one or more acoustic transducers comprises piezoelectric material.

3. (original) The implantable stimulator of claim 1, wherein the one or more acoustic transducers comprises an array of acoustic transducers.

4. (original) The implantable stimulator of claim 1, further comprising an energy storage device configured for storing the electrical current as electrical energy.

5. (currently amended) An [[The]] implantable stimulator, comprising: [[of claim 4, further comprising]]

one or more acoustic transducers configured to transform acoustic waves into electrical current;

a stimulating electrode configured to output stimulation energy to adjacent tissue, the stimulation energy based on the electrical current;

an energy storage device configured for storing the electrical current as electrical energy; and

a switch configured to selectively output the electrical energy from the energy storage device to alternately activate and deactivate the implantable stimulator.

6. (original) The implantable stimulator of claim 1, further comprising control circuitry configured to control the stimulation energy output from the stimulation electrode.

7. (currently amended) An [[The]] implantable stimulator, comprising: [[of claim 6, further comprising]]

one or more acoustic transducers configured to transform acoustic waves into electrical current;

a stimulating electrode configured to output stimulation energy to adjacent tissue, the stimulation energy based on the electrical current;

control circuitry configured to control the stimulation energy output from the stimulation electrode; and

memory for storing stimulation parameters, the control circuitry using the stored stimulation parameters to control the stimulation energy output from the stimulation electrode.

8. (original) The implantable stimulator of claim 6, wherein the control circuitry outputs the stimulation energy.

9. (currently amended) An [[The]] implantable stimulator, comprising: [[of claim 6, further comprising]]

one or more acoustic transducers configured to transform acoustic waves into electrical current;

a stimulating electrode configured to output stimulation energy to adjacent tissue, the stimulation energy based on the electrical current;

control circuitry configured to control the stimulation energy output from the stimulation electrode; and

a switch that is alternately opened and closed by the control circuitry to generate the stimulation energy.

10. (canceled)

11. (currently amended) The implantable stimulator of claim 1 [[10]], further comprising a switch that is alternately opened and closed in response to the electrical current to generate the stimulation energy.

12. (currently amended) The implantable stimulator of claim 1 [[10]], wherein the stimulation energy is directly transformed from the electrical current.

13. (original) The implantable stimulator of claim 1, wherein the stimulation energy output from the stimulating electrode is configured to therapeutically stimulate heart tissue.

14. (currently amended) An [[The]] implantable stimulator [[of claim 1]], comprising:

one or more acoustic transducers configured to transform acoustic waves into electrical current; and

a stimulating electrode configured to output stimulation energy to adjacent tissue, the stimulation energy based on the electrical current;

wherein the stimulation energy output from the stimulating electrode is configured to therapeutically stimulate nerve tissue.

15. (currently amended) An implantable stimulator, comprising:

one or more acoustic transducers configured to transform acoustic waves into electrical current;

a stimulating electrode configured to output stimulation energy to tissue adjacent the electrode, the stimulation energy based on the electrical current;

control circuitry configured to control the stimulation energy output from the stimulation electrode; [[and]]

a casing that integrates the one or more acoustic transducers, stimulating electrode, and control circuitry; and

memory for storing stimulation parameters, the control circuitry using the stored stimulation parameters to control the stimulation energy output from the stimulation electrode, wherein the casing integrates the memory with the one or more acoustic transducers, stimulating electrode, and control circuitry.

16. (original) The implantable stimulator of claim 15, wherein the one or more acoustic transducers comprises piezoelectric material.

17. (original) The implantable stimulator of claim 15, wherein the one or more acoustic transducers comprises an array of acoustic transducers.

18. (original) The implantable stimulator of claim 15, further comprising an energy storage device configured for storing the electrical current as electrical energy, wherein the casing integrates the energy storage device with the one or more acoustic transducers, stimulating electrode, and control circuitry.

19. (original) The implantable stimulator of claim 18, further comprising a switch configured to selectively output the electrical energy from the energy storage device to alternately activate and deactivate the implantable stimulator, wherein the casing integrates the switch with the one or more acoustic transducers, stimulating electrode, and control circuitry.

20. (canceled)

21. (original) The implantable stimulator of claim 15, wherein the control circuitry outputs the stimulation energy.

22. (original) The implantable stimulator of claim 15, further comprising a switch that is alternately opened and closed by the control circuitry to generate the stimulation energy.

23. (original) The implantable stimulator of claim 15, wherein the stimulation energy output from the stimulating electrode is configured to therapeutically stimulate heart tissue.

24. (currently amended) An [[The]] implantable stimulator, comprising: [[of claim 15,]]

one or more acoustic transducers configured to transform acoustic waves into electrical current;

a stimulating electrode configured to output stimulation energy to tissue adjacent the electrode, the stimulation energy based on the electrical current;

control circuitry configured to control the stimulation energy output from the stimulation electrode; and

a casing that integrates the one or more acoustic transducers, stimulating electrode, and control circuitry,

wherein the stimulation energy output from the stimulating electrode is configured to therapeutically stimulate nerve tissue.

25. (currently amended) A stimulation system, comprising:

a control device configured for transmitting acoustic waves through tissue;

at least one implantable stimulator configured for transforming the acoustic waves into electrical current, and outputting stimulation energy to adjacent tissue, the stimulation energy based on the electrical current,

wherein the control device is configured for directly controlling generation of the stimulation energy.

26. (original) The stimulation system of claim 25, wherein the at least one implantable stimulator is configured for storing the electrical current as electrical energy.

27. (currently amended) A [[The]] stimulation system [[of claim 25]], comprising:

a control device configured for transmitting acoustic waves through tissue;

at least one implantable stimulator configured for transforming the acoustic waves into electrical current, and outputting stimulation energy to adjacent tissue, the stimulation energy based on the electrical current,

wherein the control device is configured for transmitting other acoustic waves through the tissue to alternately activate and deactivate the at least one implantable stimulator.

28. (original) The stimulation system of claim 25, wherein the at least one implantable stimulator is configured to control the stimulation energy output from the implantable stimulator.

29. (currently amended) A [[The]] stimulation system [[of claim 25]], comprising:

a control device configured for transmitting acoustic waves through tissue;

at least one implantable stimulator configured for transforming the acoustic waves into electrical current, and outputting stimulation energy to adjacent tissue, the stimulation energy based on the electrical current,

wherein the at least one implantable stimulator is configured for storing stimulation parameters, and using the stored stimulation parameters to control the stimulation energy output from the implantable stimulator.

30. (canceled)

31. (original) The stimulation system of claim 25, wherein the at least one implantable stimulator is configured to therapeutically stimulate heart tissue.

32. (currently amended) A [[The]] stimulation system [[of claim 25]], comprising:

a control device configured for transmitting acoustic waves through tissue;

at least one implantable stimulator configured for transforming the acoustic waves into electrical current, and outputting stimulation energy to adjacent tissue, the stimulation energy based on the electrical current,

wherein the at least one implantable stimulator is configured to therapeutically stimulate nerve tissue.

33. (currently amended) A [[The]] stimulation system [[of claim 25]], comprising:

a control device configured for transmitting acoustic waves through tissue;

at least one implantable stimulator configured for transforming the acoustic waves into electrical current, and outputting stimulation energy to adjacent tissue, the stimulation energy based on the electrical current,

wherein the at least one implantable stimulator comprises a plurality of implantable stimulators.

34. (original) The stimulation system of claim 33, wherein the plurality of implantable stimulators comprises a respective plurality of unique identification codes, and wherein the control device is configured to specifically address the implantable stimulators based on the unique identification codes.

35. (original) The stimulation system of claim 33, wherein the control device is configured for controlling the stimulation energy output from the respective implantable stimulators in accordance with a timing pattern.

36. (original) The stimulation system of claim 25, wherein the control device is an external device.

37. (original) The stimulation system of claim 25, wherein the control device is an implantable stimulator.

38. (currently amended) A [[The]] stimulation system [[of claim 25]], comprising:

a control device configured for transmitting acoustic waves through tissue;

at least one implantable stimulator configured for transforming the acoustic waves into electrical current, and outputting stimulation energy to adjacent tissue, the stimulation energy based on the electrical current,

wherein the at least implantable stimulator is configured for transmitting acoustic waves to the control device, and the control device is configured for controlling the stimulation energy output from the at least one implantable stimulator based on the acoustic waves transmitted by the at least one implantable stimulator.

39. (original) The stimulation system of claim 25, wherein the acoustic waves transmitted by the at least one implantable stimulator contains diagnostic information.

40. (currently amended) A [[The]] stimulation system [[of claim 39]], comprising:

a control device configured for transmitting acoustic waves through tissue;

at least one implantable stimulator configured for transforming the acoustic waves into electrical current, and outputting stimulation energy to adjacent tissue, the stimulation energy based on the electrical current,

wherein the acoustic waves transmitted by the at least one implantable stimulator contains diagnostic information, and

wherein the at least one implantable stimulator is configured to therapeutically stimulate heart tissue, and the diagnostic information is blood pressure information.